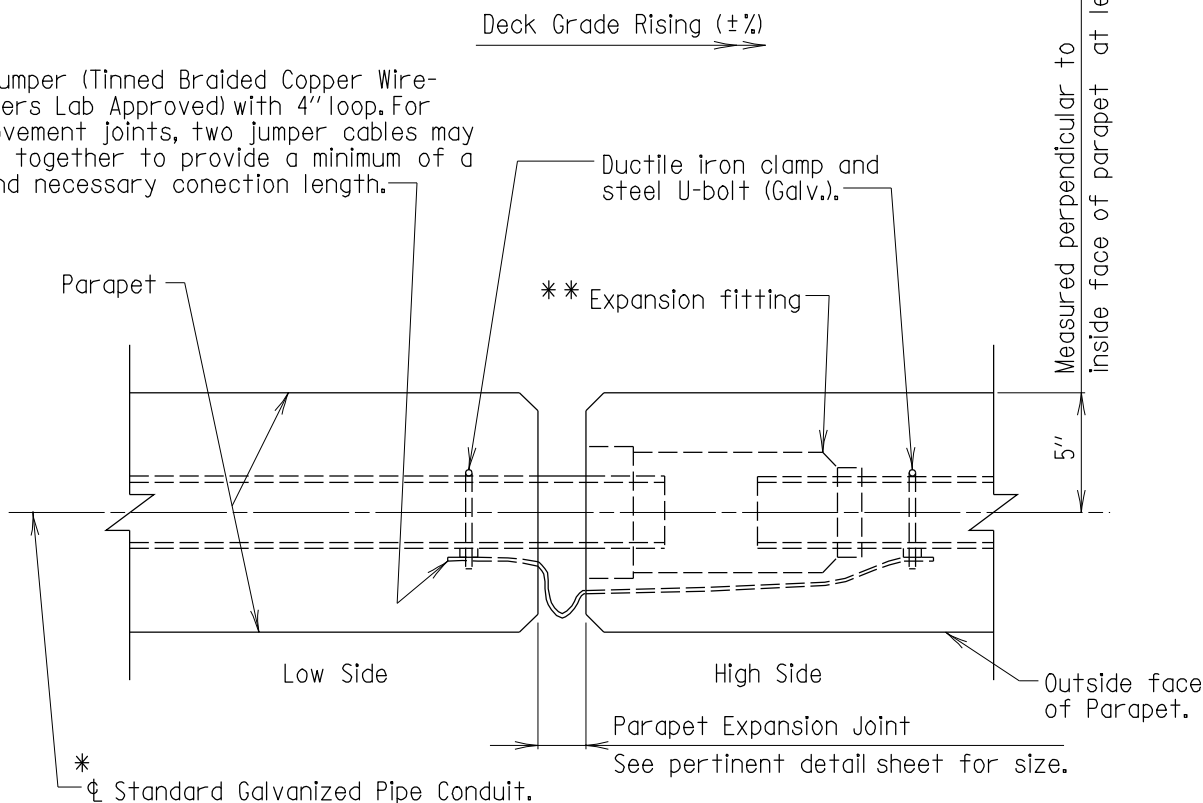


Bonding Jumper (Tinned Braided Copper Wire-Underwriters Lab Approved) with 4" loop. For larger movement joints, two jumper cables may be bolted together to provide a minimum of a 6" loop and necessary connection length.



SECTION
Scale: 1 1/2" = 1'-0"

* For conduit size see Superstructure "Typical Section" sheet. Vertical location of ϕ of this conduit shall be at least 4" below bottom of railing or fencing anchorage systems.

** Expansion fittings for use with rigid galvanized steel conduit shall consist of a malleable iron head and steel sleeve which shall be hot-dipped galvanized and assembled with a watertight packing gland, an insulated bushing, pressure ring and gasket and a tinned-copper bond to assure continuity of ground. The fitting shall provide, unless otherwise noted on the plans: 4" of movement for all compression seal roadway joints and 8" of movement for all other roadway joints, such as steel finger joints.

Notes:

1. Place expansion joint in pipe conduit and parapet at every expansion joint in supports in bridge deck.
2. #10 galvanized pull wire to be provided for full length of conduit and left in place.
3. Contractor may furnish either PVC conduit as shown on sheet 2 of 2 or material shown on this detail. However only one type can be used throughout a structure.

APPROVAL	
<i>E. S. Friedman</i>	DIRECTOR
OFFICE OF BRIDGE DEVELOPMENT	
DATE: 6/20/75	
REVISIONS	
SHA	FHWA
7-5-83	11-29-85
9-1-83	11-29-85
12-29-89	6-8-90
1-22-01	

FHWA APPROVAL
DATE: 8-24-76

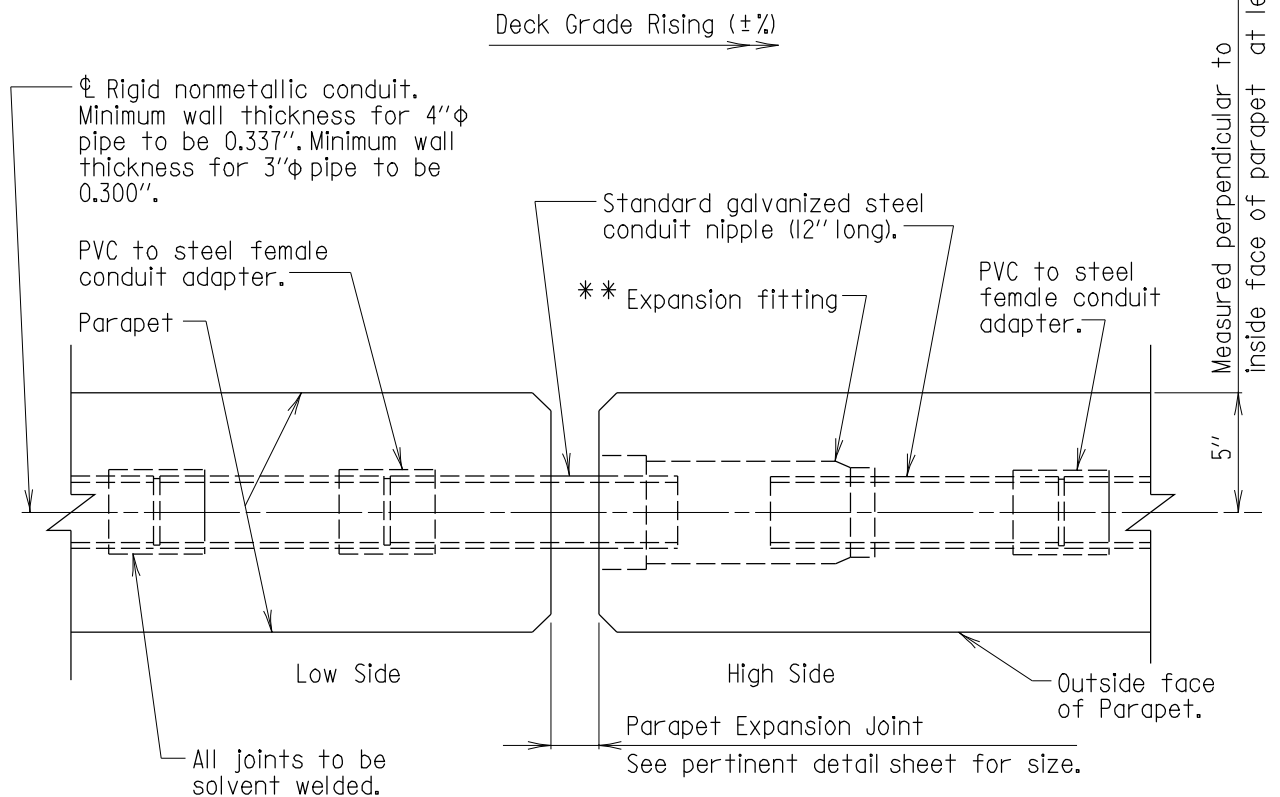
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

EXPANSION JOINT FOR CONDUIT IN PARAPET

STANDARD NO. BR-SS(0.01)-75-13

SHEET 1 OF 2

SUPER-OTHER



SECTION
Scale: 1 1/2" = 1'-0"

Note: No bonding jumper cable is required.

* For conduit size see Superstructure "Typical Section" sheet. Vertical location of ϕ of this conduit shall be at least 4" below bottom of railing or fencing anchorage systems.

** Expansion fittings for use with rigid galvanized steel conduit shall consist of a malleable iron head and steel sleeve which shall be hot-dipped galvanized and assembled with a watertight packing gland, an insulated bushing, pressure ring and gasket and a tinned-copper bond to assure continuity of ground. The fitting shall provide, unless otherwise noted on the plans: 4" of movement for all compression seal roadway joints and 8" of movement for all other roadway joints, such as steel finger joints.

Notes:

1. Place expansion joint in pipe conduit and parapet at every expansion joint at supports in bridge deck.
2. #10 galvanized pull wire to be provided for full length of conduit and left in place.
3. All pipe and expansion joint must be U.L. approved for encasement in concrete.
4. Fittings to be PVC, except for expansion joint.
5. Nonmetallic conduit shall conform to 921.07.02.

APPROVAL	
<i>E.S. Fisher</i>	DIRECTOR
OFFICE OF BRIDGE DEVELOPMENT	
DATE: 9/27/83	
REVISIONS	
SHA	FHWA
1-3-90	.
5-26-92	.
1-4-94	.
1-22-01	.

FHWA APPROVAL
DATE: 11-29-85

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

EXPANSION JOINT FOR CONDUIT IN PARAPET

STANDARD NO. BR-SS(0.01)-75-13

SHEET 2 OF 2

SUPER-OTHER

GENERAL NOTES

- Specifications: Latest S.H.A. Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials: Scuppers shall be fiberglass conforming to 921.11.
Gratings and $\frac{3}{16}$ " bands to be structural steel conforming to ASTM A 709 Grade 36, and epoxy coated.
Elastomeric pad shall conform to 910.02 using 60 Durometer hardness.
Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B 8 Type 304.
- Epoxy Bonding Compound: All fiberglass that will be in contact with elastomeric material shall be coated with epoxy bonding compound conforming to 921.04.
- Epoxy Coating: All steel angles and additional #5 bars shall be epoxy coated as specified in 917.02 except that the color shall match Federal Test Method 595, Color No. 26440.
- Measurement and Payment: The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge, complete in place, will be measured and paid for at the Contract unit price per each for Scupper item regardless of the length of the downspouts, etc. If no specific item appears in the Invitation for Bids for the Scupper then the cost shall be included in the pertinent Superstructure Concrete item.

APPROVAL	
<i>L.S. Friedman</i> DIRECTOR OFFICE OF BRIDGE DEVEL.	
DATE: 7/25/80	
REVISIONS	
SHA	FHWA
4-10-86	6-8-90
12-27-93	.
2-7-94	.
1-22-01	.

FHWA APPROVAL
DATE: 6-8-90

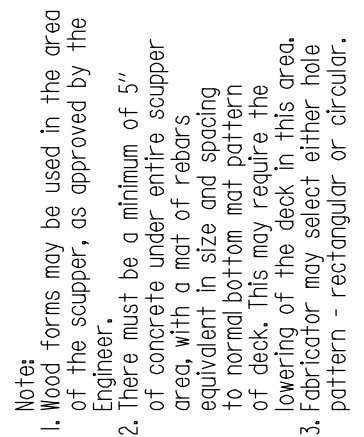
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE I BRIDGE SCUPPER

STANDARD NO. BR-SS(0.03)-80-112

SHEET 1 OF 4

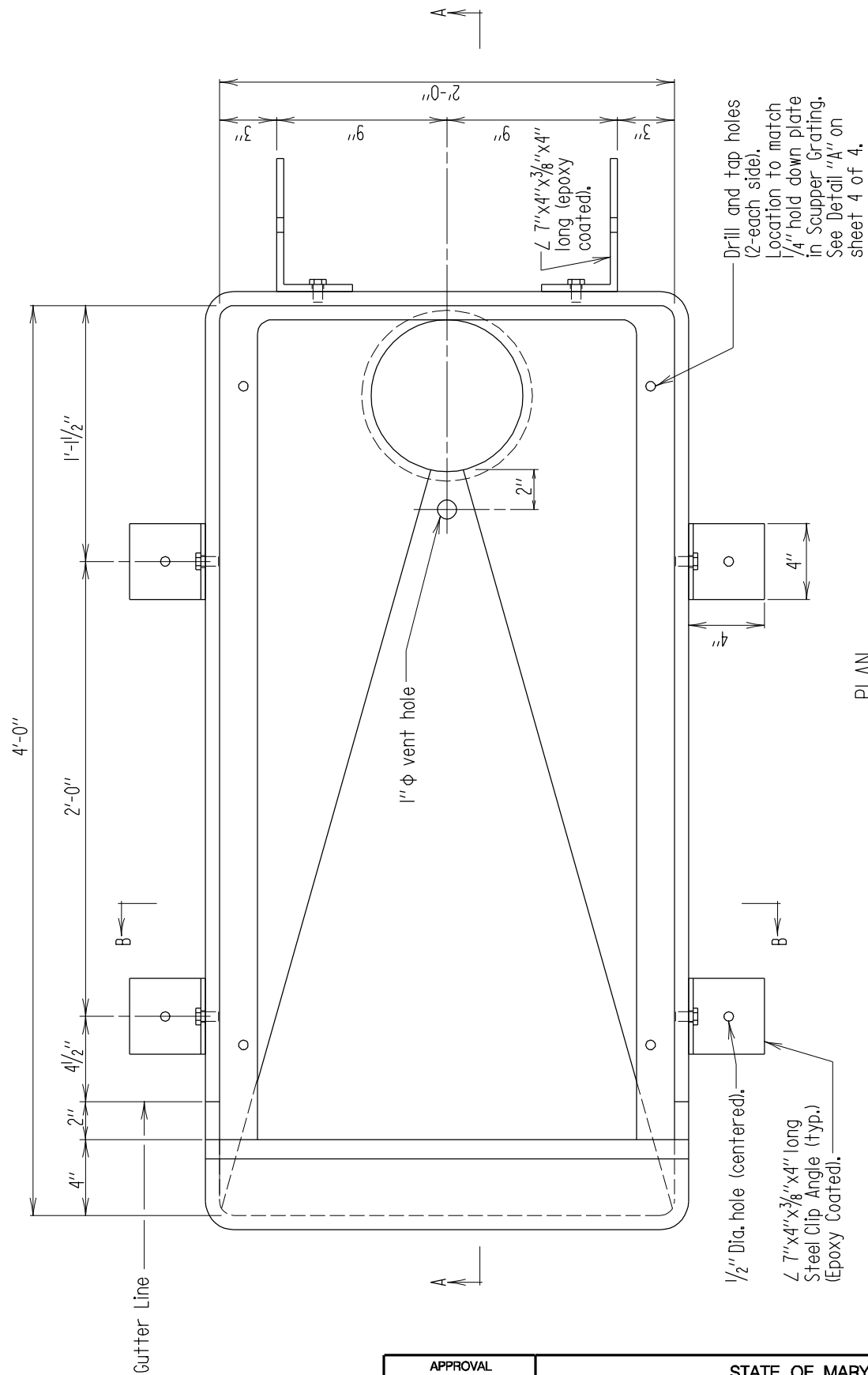
SUPER - OTHER



GENERAL NOTES

- Specifications:** Latest S.H.A. Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials:** Scuppers shall be grey cast iron, conforming to ASTM A 48 Class 30 B.
- Gratings shall be structural steel conforming to ASTM A 709 Grade 36 and epoxy coated.
- Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B8, Type 304.
- Paint:** Scuppers shall be painted with one shop coat inside and outside. Shop paint shall conform to 912.02.01. Insides of scuppers to be painted with one coat of coal tar epoxy SSPC-Paint 16. Vertical showing surface in curb face and horizontal showing surface in roadway to be painted with the second and finish coats specified in 912.16, System E. Outside of scuppers exposed to atmosphere below the concrete deck slab, shall receive the field paint required for structural steel. If there is no paint indicated, the scupper shall be painted to match color of existing beam.
- Shipping:** Grate and Scupper shall be shipped as unit with grate hold down bolts in place (not welded).
- Measurement and Payment:** The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge will be measured and paid for at the Contract unit price per each for the Scupper item regardless of length of downspouts, etc. If no specific items appear in the Invitation for Bids, the cost shall be included in the pertinent Superstructure Concrete item.

APPROVAL		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
<i>L.S. Fisher</i> DIRECTOR OFFICE OF BRIDGE DEVEL.			
DATE: 8/24/81			
REVISIONS			
	SHA	FHWA	TYPE I A BRIDGE SCUPPER
	7-18-83	6-8-90	
	11-12-87	6-8-90	
	12-27-93	.	
	1-22-01	.	
FHWA APPROVAL	12-27-93	.	STANDARD NO. BR-SS(0.04)-81-130
DATE: 6-8-90	1-22-01	.	
			SHEET 1 OF 4



- Note:
1. Wood forms may be used in the area of the scupper, as approved by the Engineer.
 2. There must be a minimum of 5" of concrete under entire scupper area, with a mat of rebar equivalent in size and spacing to normal bottom mat pattern of deck. This may require the lowering of the deck in this area.

APPROVAL	
<i>E.S. Freedom</i>	DIRECTOR
OFFICE OF BRIDGE DEVEL.	
DATE: 8/24/81	
REVISIONS	
SHA	FHWA
7-1-83	6-8-90
1-7-93	.
5-20-94	.
1-22-01	.

FHWA APPROVAL
DATE: 6-8-90

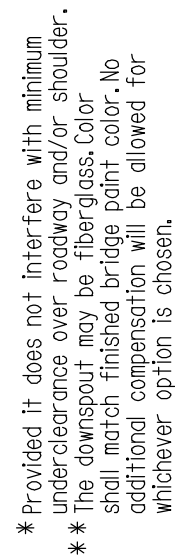
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE IA BRIDGE SCUPPER

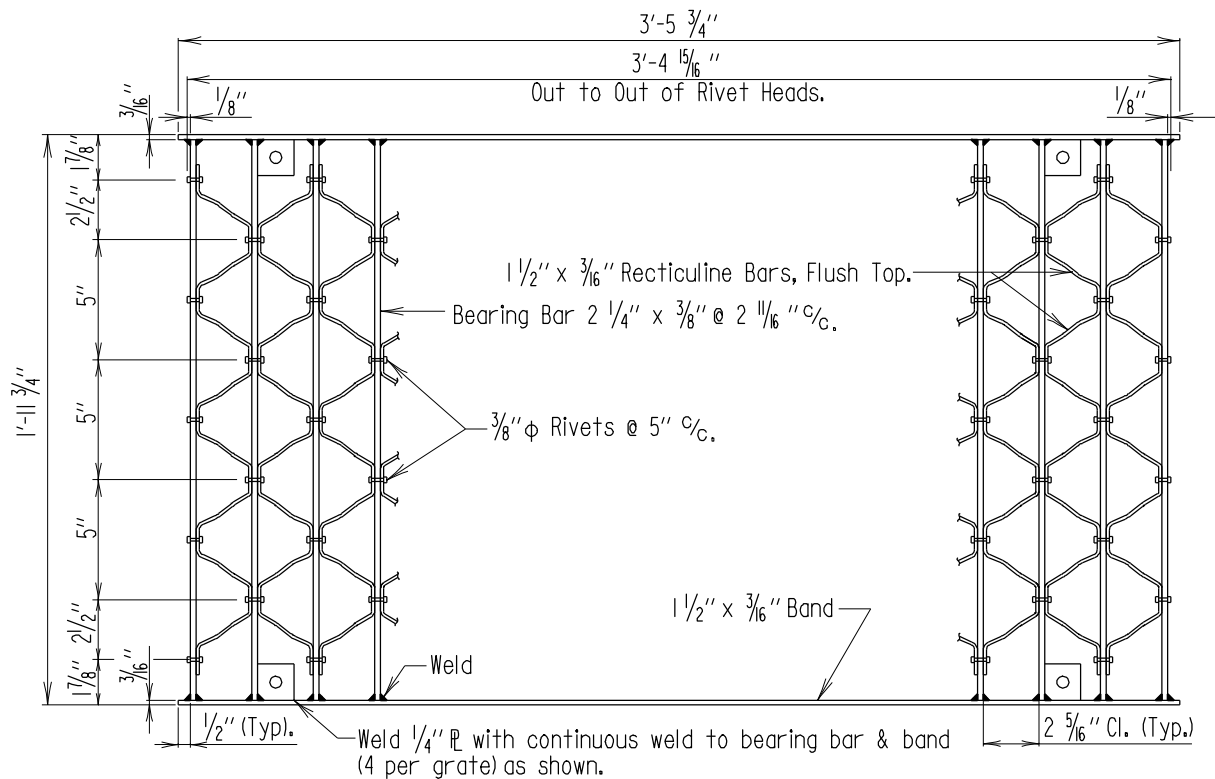
STANDARD NO. BR-SS(0.04)-81-130

SHEET 2 OF 4

SUPER-OTHER

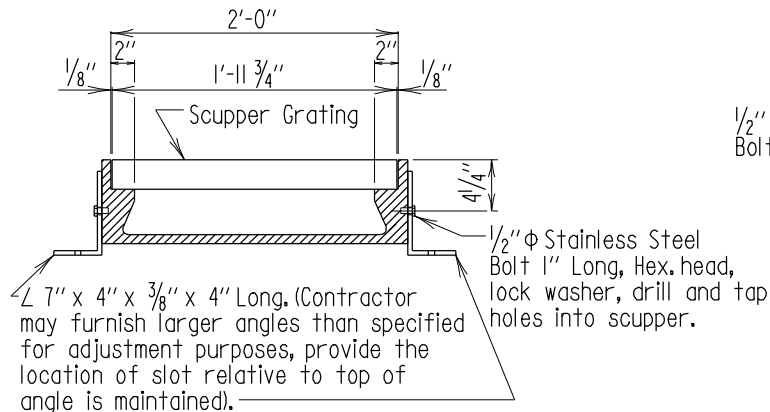


SHEET 3 OF 4



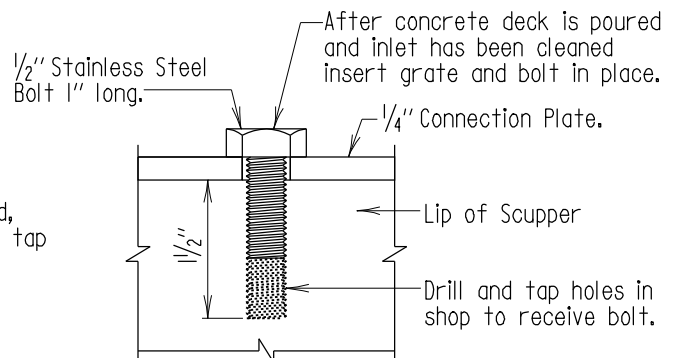
PLAN - SCUPPER GRATING

Scale: 1 1/2" = 1'-0"



SECTION B-B

Scale: 3/4" = 1'-0"



DETAIL "A"

Scale: None

APPROVAL	
<i>E. S. Friedman</i>	DIRECTOR
OFFICE OF BRIDGE DEVELOPMENT	
DATE: 8/24/81	
REVISIONS	
SHA	FHWA
2-3-83	6-8-90
1-7-93	
FHWA APPROVAL	
DATE: 6-8-90	

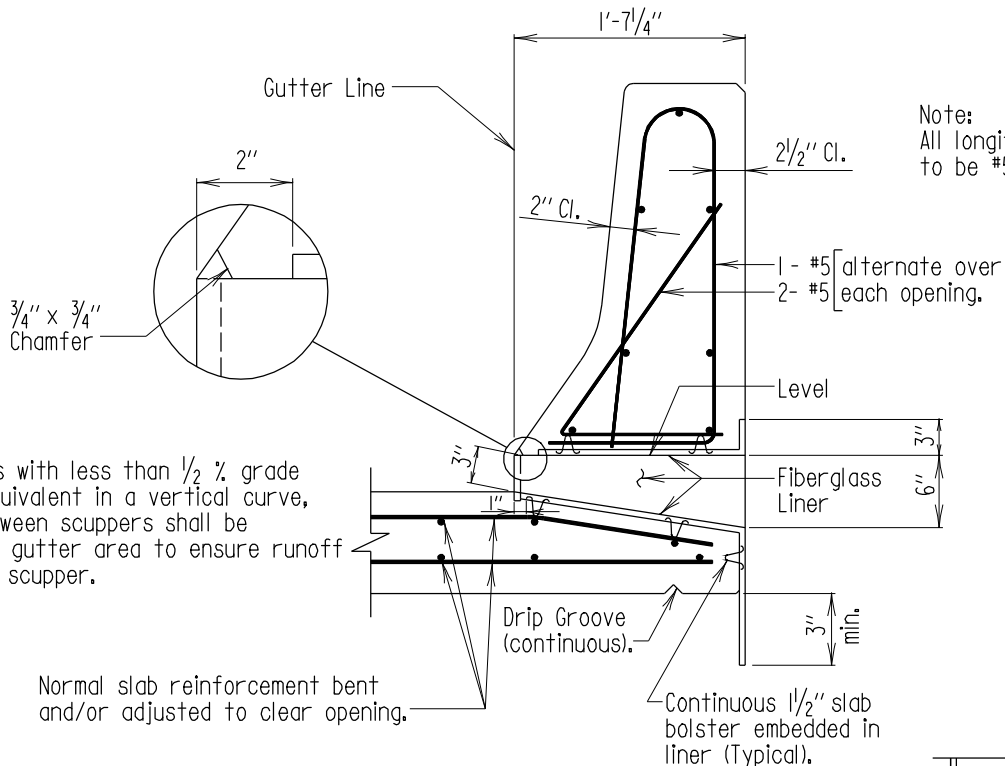
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE IA BRIDGE SCUPPER

STANDARD NO. BR-SS(0.04)-81-130

SHEET 4 OF 4

SUPER-OTHER



Note:
All longitudinal steel in parapet
to be #5's spaced as shown.

Note:
On bridges with less than $\frac{1}{2}\%$ grade
or the equivalent in a vertical curve,
areas between scuppers shall be
sloped in gutter area to ensure runoff
will reach scupper.

Normal slab reinforcement bent
and/or adjusted to clear opening.

Note:
Stringers and railing
not shown.

SECTION A-A
Scale: $\frac{3}{4}'' = 1'-0''$

Other Related Standards
BR-SS(6.02)-75-27
REBAR-PL(9.02)-91-220
REBAR-PL(9.03)-91-236
REBAR-PL(9.02)-91-221
REBAR-BD(9.03)-91-237

Whenever exterior stringers are
greater than 3'-0\"

- Notes:
1. Fiberglass lining shall extend 3\"
 2. Omit openings in panels 10' each side of piers and abutments and in those sections which carry light posts support brackets. Normal parapet and sidewalk reinforcing shall be provided in all sections without openings.
 3. Fiberglass shall conform to 921.11. The surface of the fiberglass designed to bond with other materials shall be free of bond inhibiting agents.

APPROVAL	
<i>E. S. Friedman</i> DIRECTOR	OFFICE OF BRIDGE DEVELOPMENT
DATE: 3/3/83	
REVISIONS	
SHA	FHWA
8-1-94	.
1-6-95	.
FHWA APPROVAL	7-24-01
DATE: 6-8-90	1-22-01

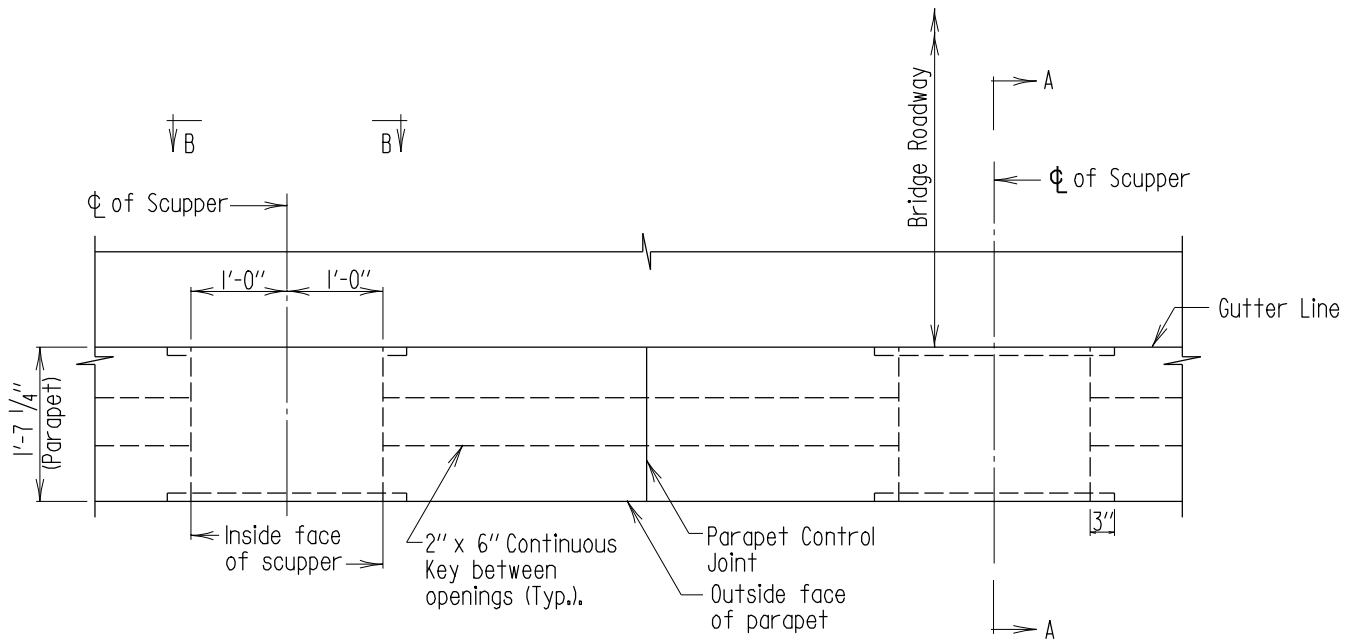
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE II BRIDGE SCUPPER

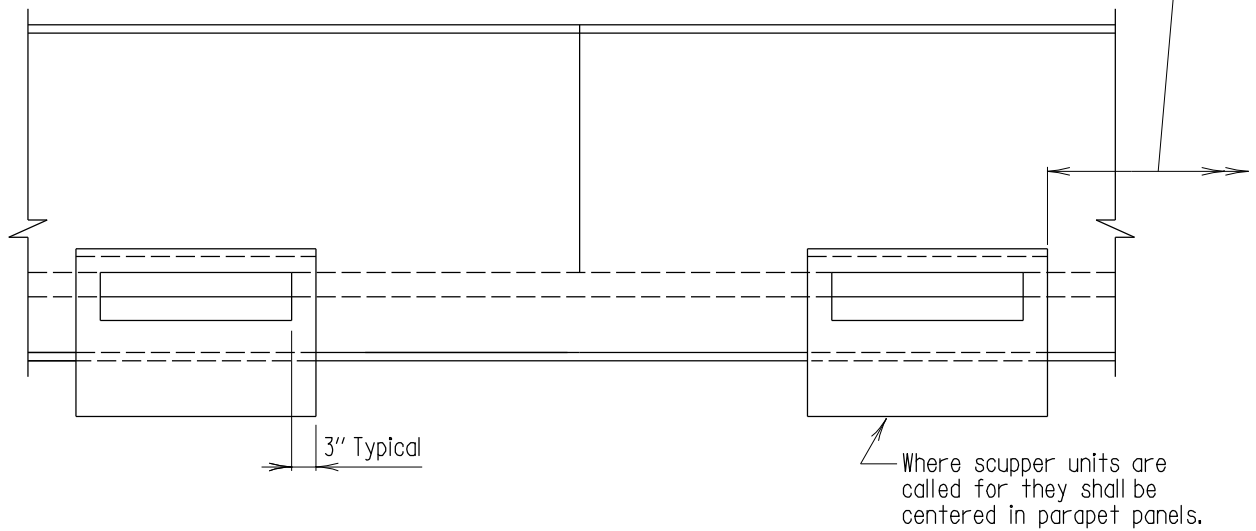
STANDARD NO. BR-SS(0.05)-83-142

SHEET 1 OF 2

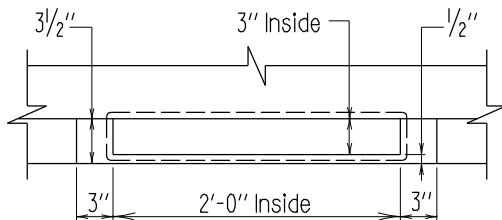
SUPER-OTHER



PLAN
Scale: 1/2" = 1'-0"



EXTERIOR ELEVATION
Scale: 1/2" = 1'-0"



VIEW B-B
Scale: 1/2" = 1'-0"

APPROVAL	
<i>E.S. Friedman</i> DIRECTOR OFFICE OF BRIDGE DEVEL.	
DATE: 3/3/83	
REVISIONS	
SHA	FHWA
10-27-92	.
1-8-93	.
8-1-94	.
1-6-95	.

FHWA APPROVAL
DATE: 11-29-85

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE II BRIDGE SCUPPER

STANDARD NO. BR-SS(0.05)-83-142

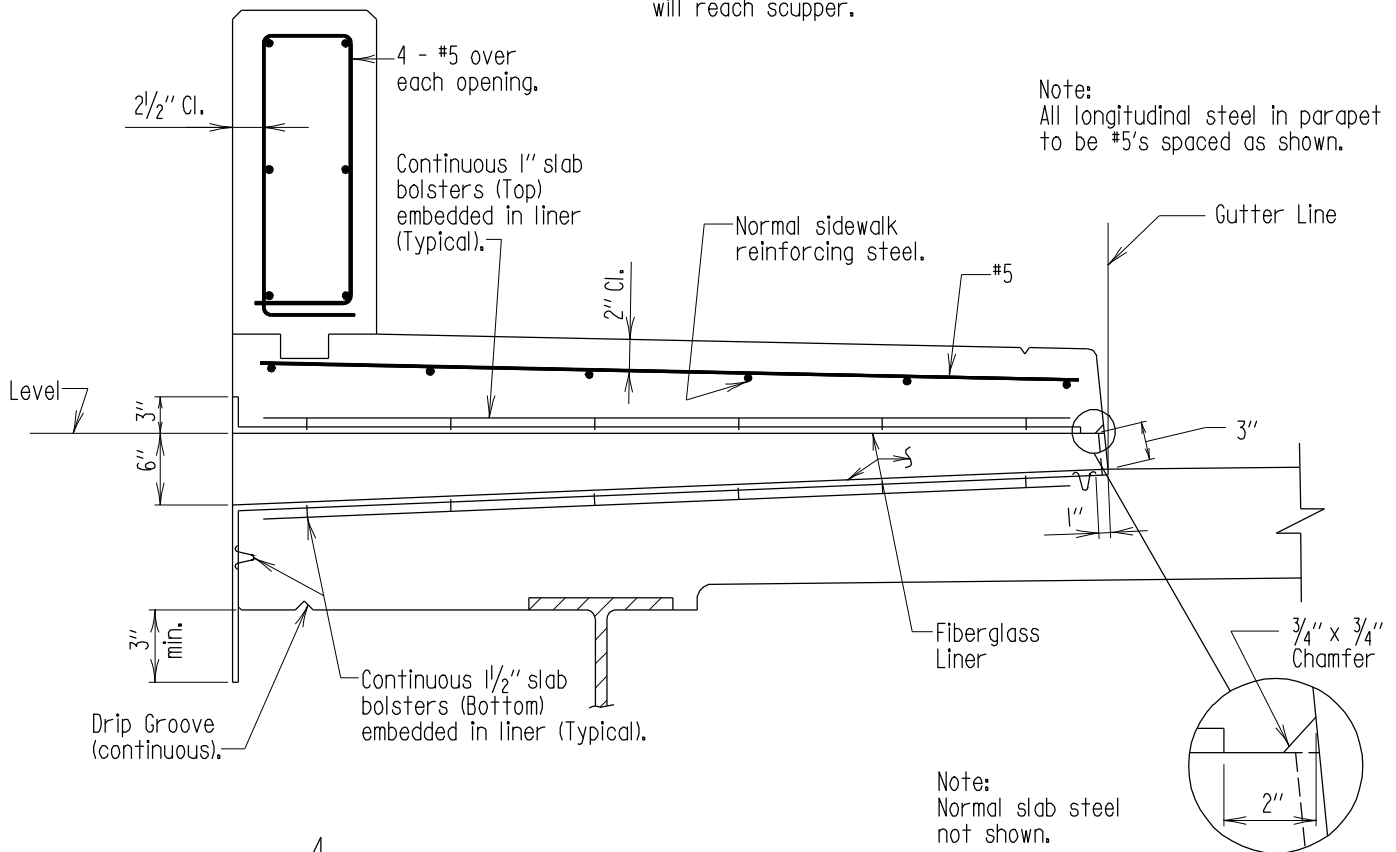
SHEET 2 OF 2

SUPER-OTHER

Note:
Railing not shown.

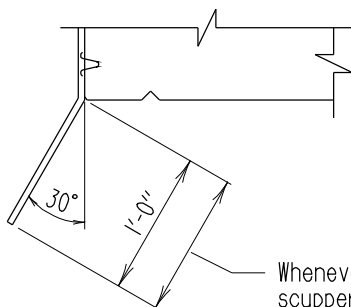
Note:
On bridges with less than $\frac{1}{2}\%$ grade
or the equivalent in a vertical curve,
areas between scuppers shall be
sloped in gutter area to ensure runoff
will reach scupper.

Note:
All longitudinal steel in parapet
to be #5's spaced as shown.



SECTION A-A
Scale: $\frac{3}{4}" = 1'-0"$

Other Related Standards
REBAR-PI.(3.02)-91-232
REBAR-PI.(3.03)-91-233
REBAR-BD(3.02)-91-233
REBAR-BD(3.03)-91-239



- Notes:
1. Fiberglass lining shall extend 3" beyond sides and top of opening on exterior face of parapet and 3" min. below bottom of slab on exterior face of parapet. Slab bolsters shall have upturned feet embedded in the fiberglass.
 2. Omit openings in panels 10' each side of piers and abutments and in those sections which carry light posts support brackets. Normal parapet and sidewalk reinforcing shall be provided in all sections without openings.
 3. Fiberglass shall conform to 921.11. The surface of the fiberglass designed to bond with other materials shall be free of bond inhibiting agents.

FHWA APPROVAL
DATE: 6-8-90

APPROVAL	
<i>[Signature]</i> DIRECTOR	CHIEF ENGINEER
DATE: 4/19/83	
REVISIONS	
SHA	FHWA
10-27-92	.
8-1-94	.
1-22-01	.
6-13-01	.

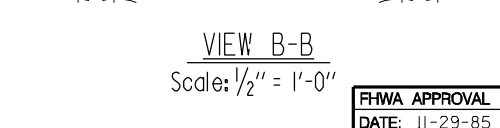
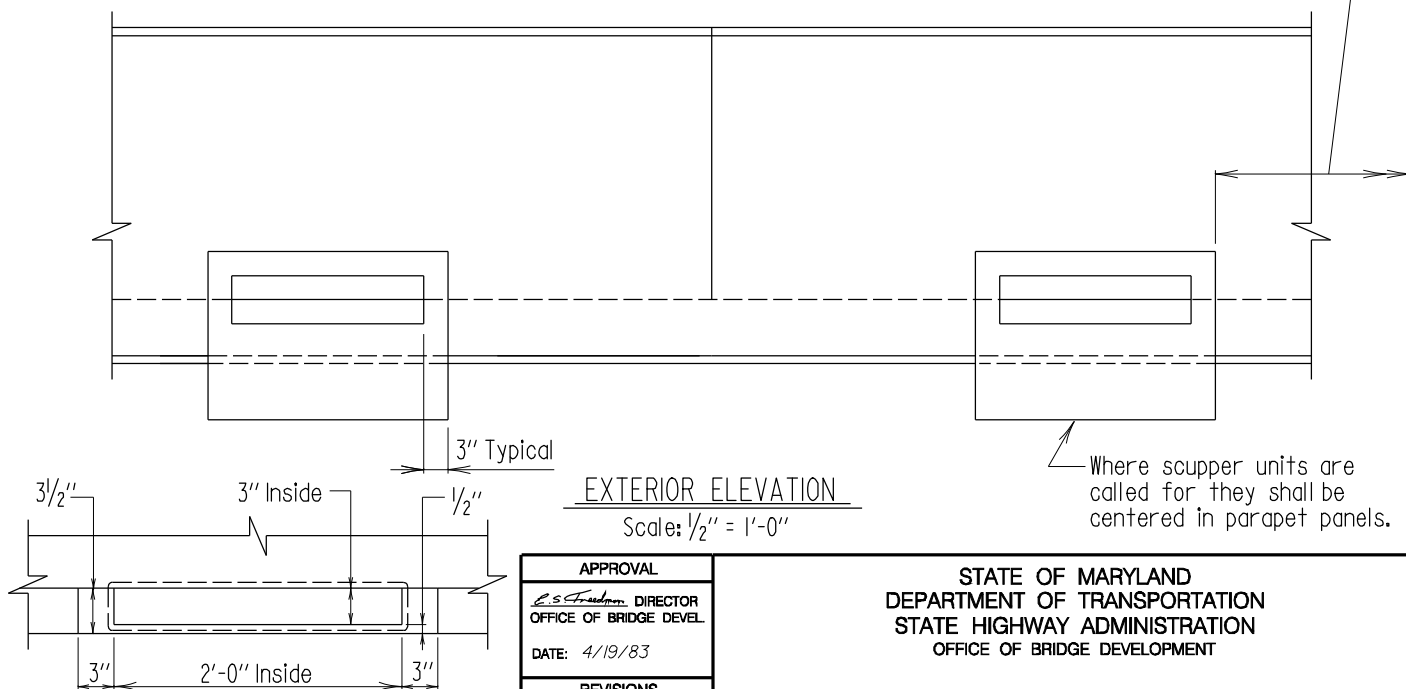
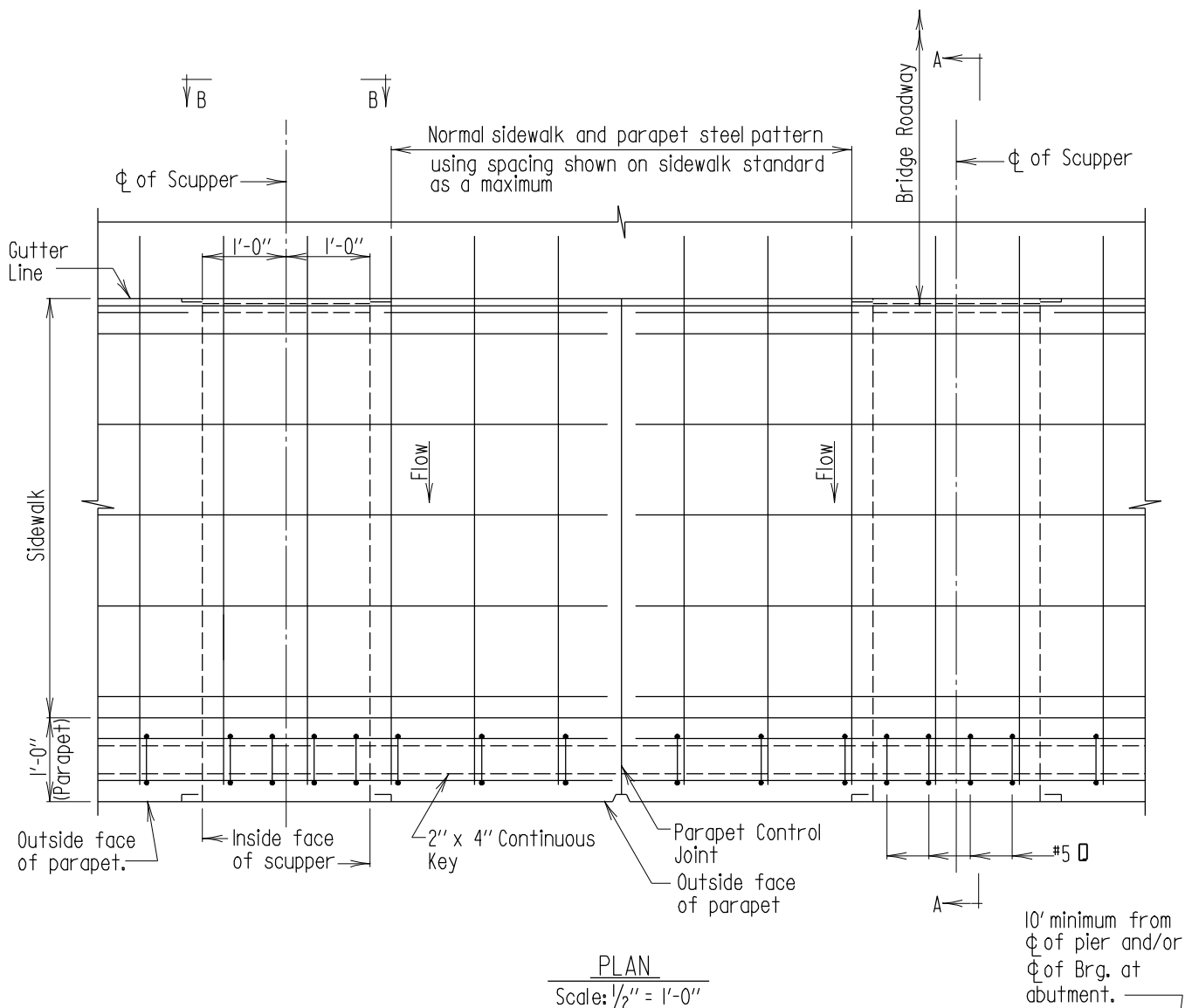
STANDARD NO. BR-SS(0.06)-83-144

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE III BRIDGE SCUPPER

SHEET 1 OF 2

SUPER-OTHER



APPROVAL	
<i>L.S. Friedman</i>	DIRECTOR
OFFICE OF BRIDGE DEVEL.	
DATE: 4/19/83	
REVISIONS	
SHA	FHWA
10-27-92	.
1-8-93	.
8-1-94	.
FHWA APPROVAL	
DATE: 11-29-85	

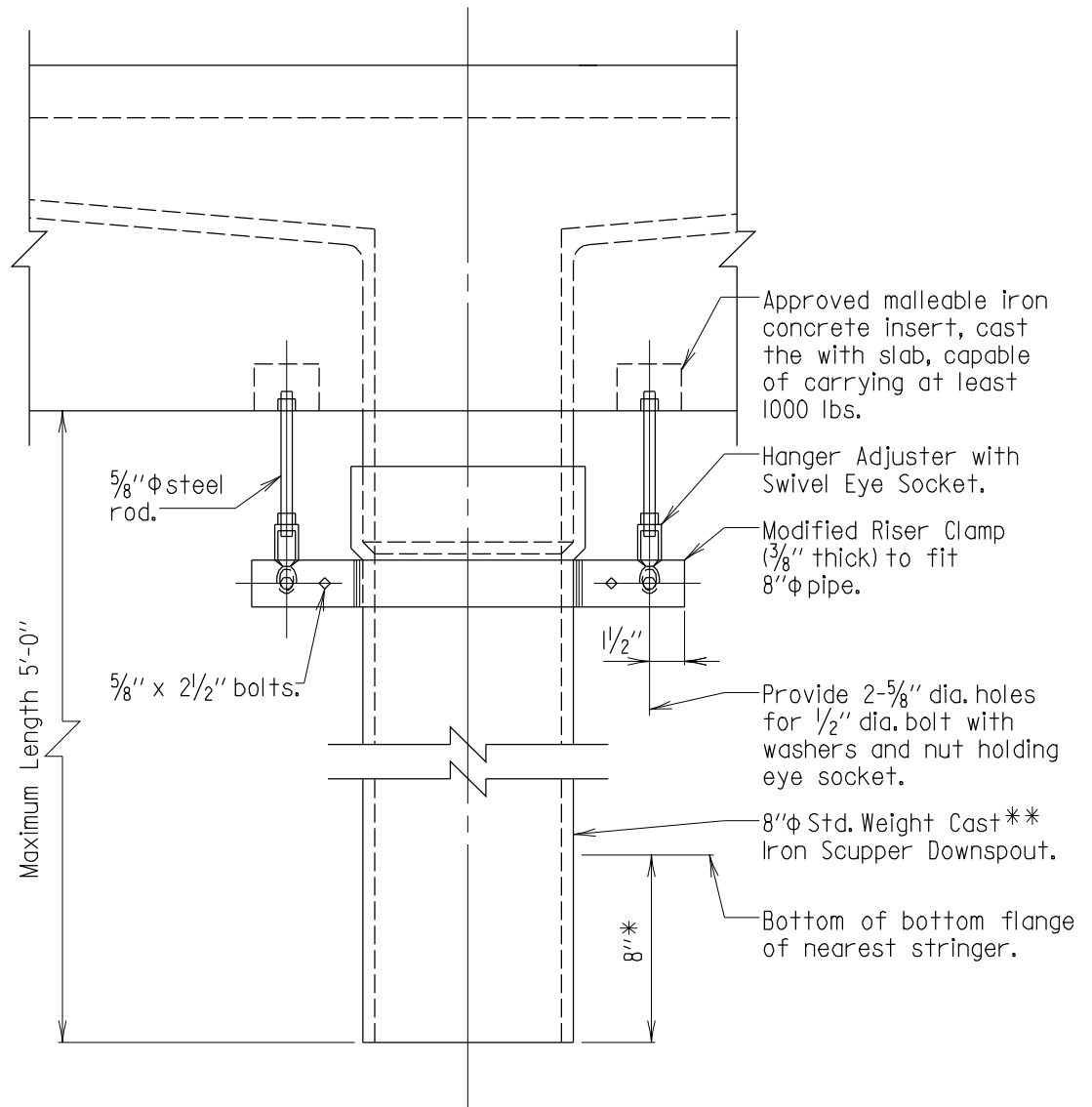
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE III BRIDGE SCUPPER

STANDARD NO. BR-SS(0.06)-83-144

SHEET 2 OF 2

SUPER-OTHER



ELEVATION
Scale: 1 1/2" = 1'-0"

- * Provided it does not interfere with minimum underclearance over roadway and/or shoulder.
- ** The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

Notes:

1. All exposed material, except cast iron scupper downspout to be epoxy coated in conformance with Section 465.
2. Exposed portions of cast iron scupper downspout to be coated with coal tar epoxy conforming to Specification SSPC-16.

APPROVAL	
<i>L. S. Friedman</i>	DIRECTOR
OFFICE OF BRIDGE DEVELOPMENT	
DATE: 4/18/83	
REVISIONS	
SHA	FHWA
5-12-93	.
9-24-96	.
1-22-01	.
7-14-08	.

FHWA APPROVAL
DATE: 11-29-85

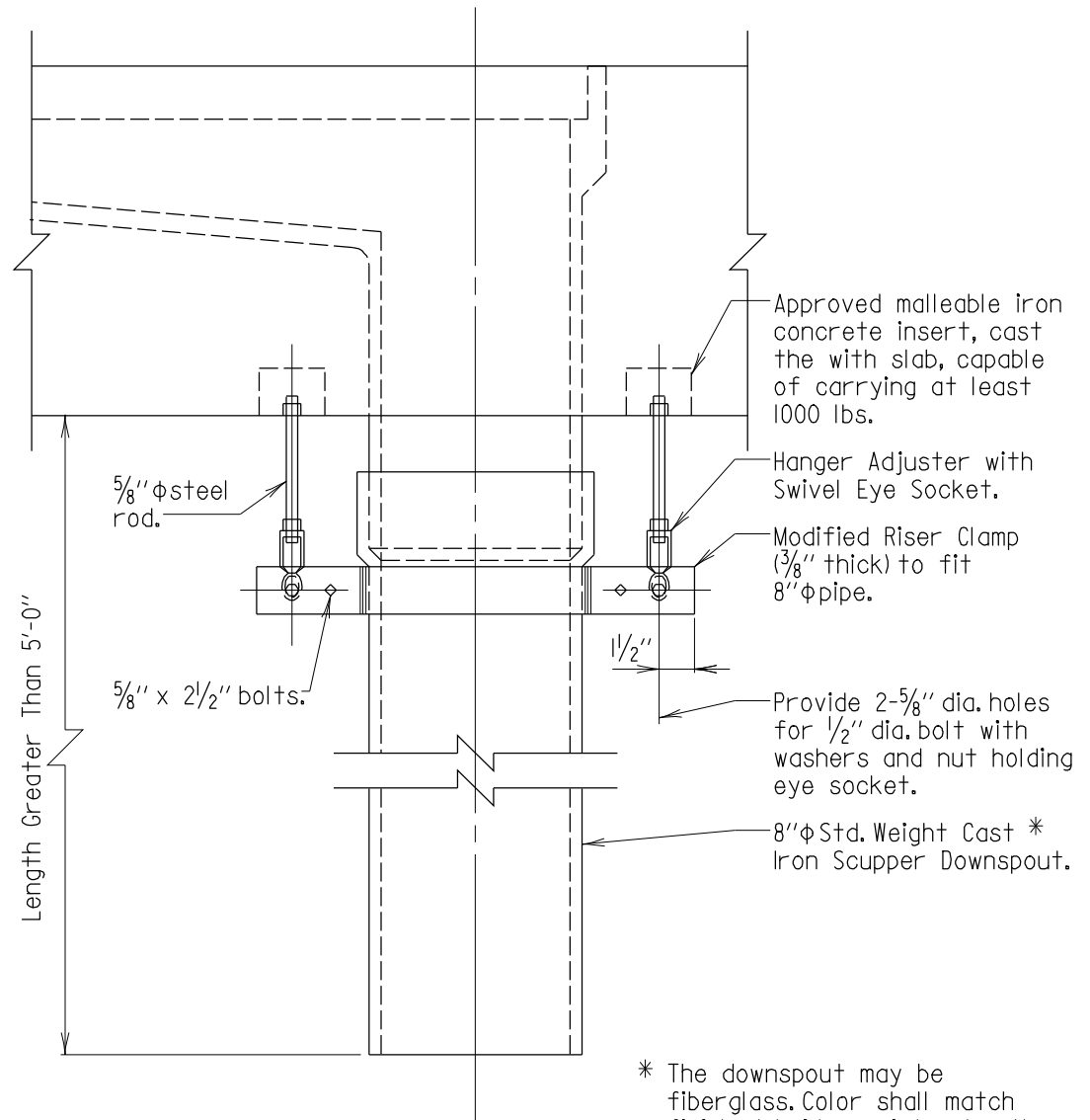
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

SCUPPER DOWNSPOUT SUPPORT BRACKET
FOR SHORT CAST IRON SCUPPER DOWNSPOUT

STANDARD NO. BR-SS(0.07)-83-145

SHEET 1 OF 1

SUPER-OTHER



* The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

ELEVATION
Scale: 1 1/2" = 1'-0"

Notes:

1. All exposed material, except cast iron scupper downspout, to be epoxy coated in conformance with Section 465.
2. Exposed portions of cast iron scupper downspout to be coated with coal tar epoxy conforming to Specification SSPC-16.

APPROVAL	
<i>L.S. Friedman</i> DIRECTOR	OFFICE OF BRIDGE DEVEL.
DATE: 2/12/90	
REVISIONS	
SHA	FHWA
5-12-93	.
1-22-01	.
7-14-08	.

FHWA APPROVAL
DATE:

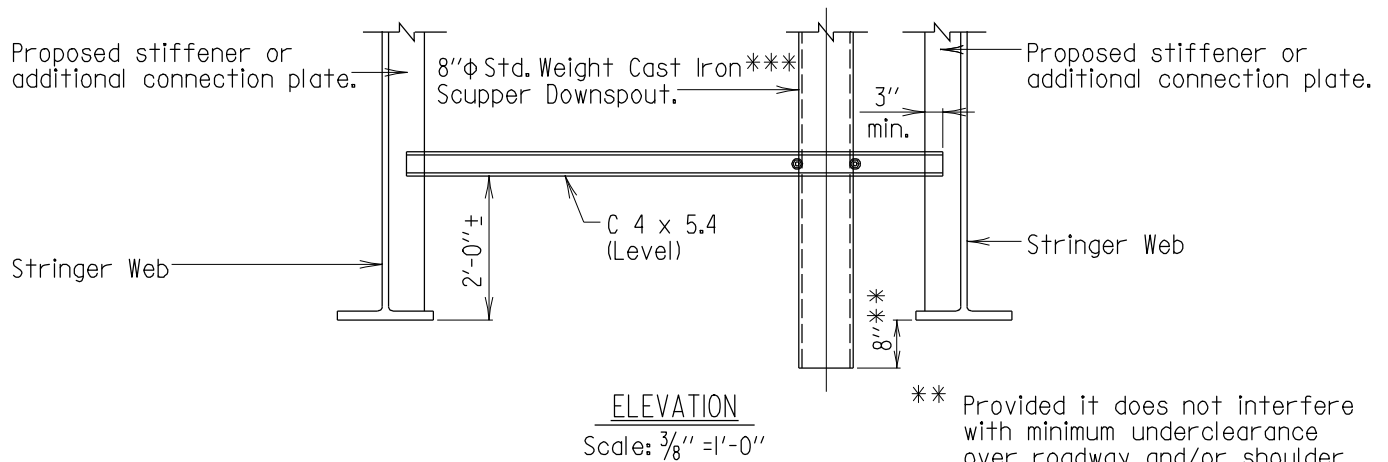
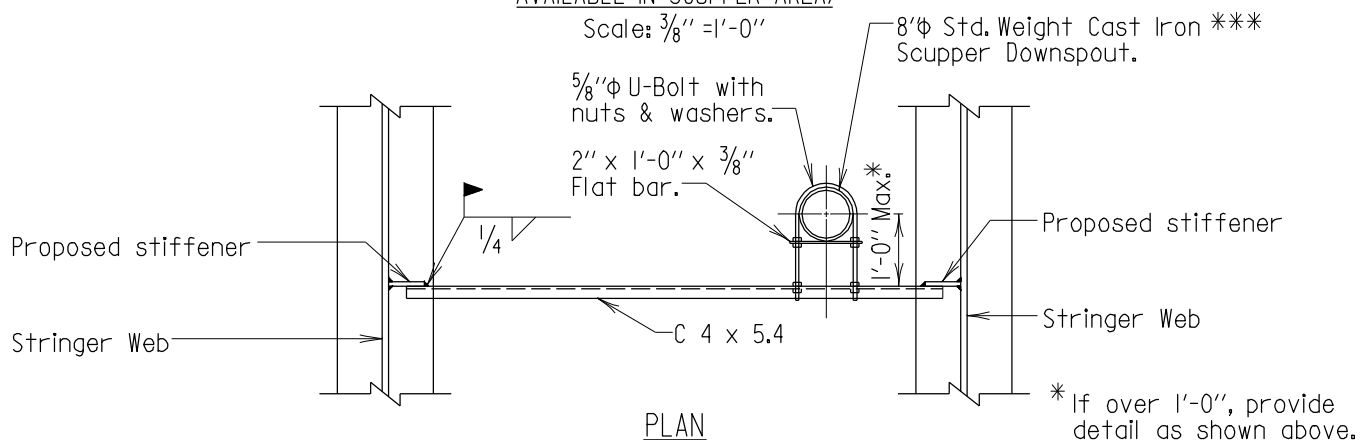
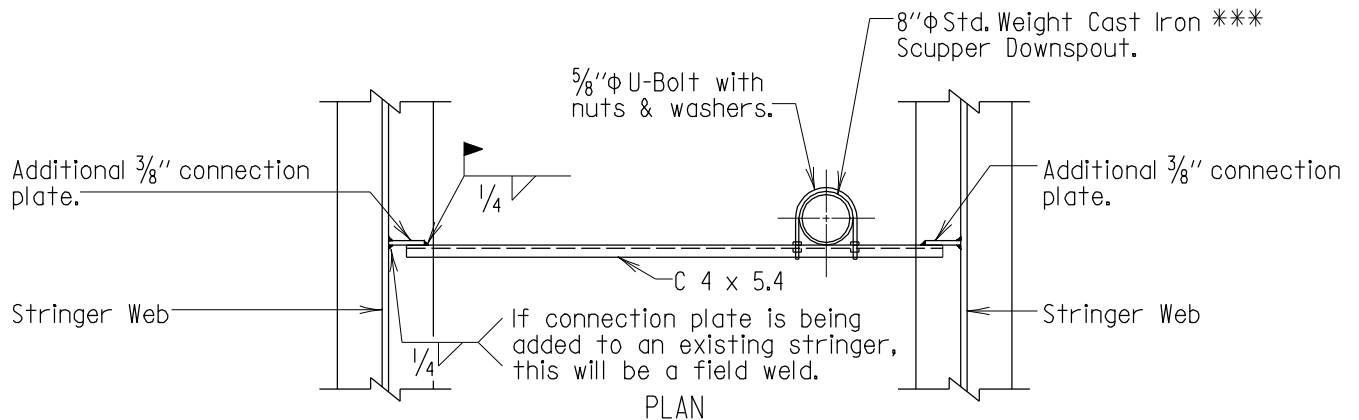
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

SCUPPER DOWNSPOUT SUPPORT BRACKET
FOR LONG CAST IRON SCUPPER DOWNSPOUT

STANDARD NO. BR-SS(0.08)-83-146

SHEET 1 OF 2

SUPER-OTHER



Notes:

1. U bolts, nuts, washers, bars, channels, etc. shall receive the same number of coats and same color field paint as required for structural steel. If weathering steel is specified it need not be painted.
2. Exposed portions of cast iron scupper downspout to be coated with coal tar epoxy conforming to Specification SSPC-16.

APPROVAL	
<i>L.S. Friedman</i> DIRECTOR	OFFICE OF BRIDGE DEVEL.
DATE: 5/2/83	
REVISIONS	
SHA	FHWA
5-12-93	.
1-22-01	.
12-17-01	.
7-14-08	.

FHWA APPROVAL
DATE: 6-8-90

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

ADDITIONAL SCUPPER DOWNSPOUT SUPPORT BRACKET
FOR LONG CAST IRON SCUPPER DOWNSPOUT

STANDARD NO. BR-SS(0.08)-83-146

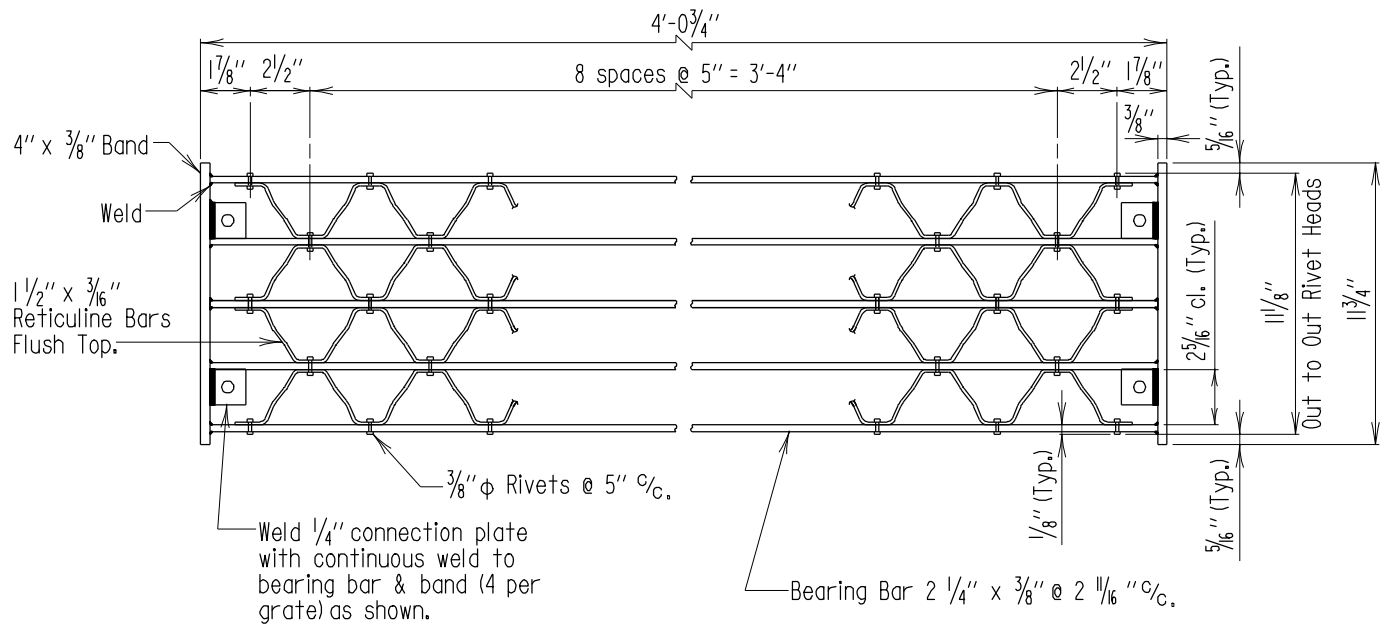
SHEET 2 OF 2

SUPER-OTHER

GENERAL NOTES

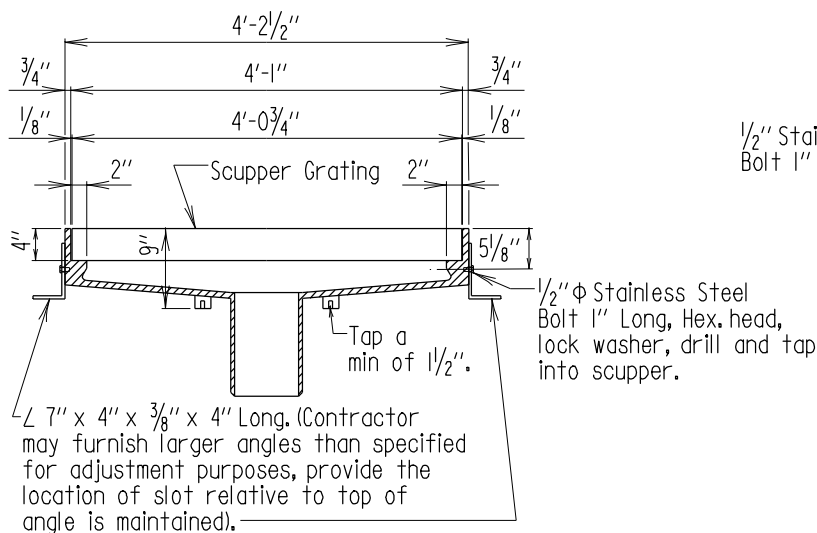
- Specifications: Latest S.H.A. Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials: Scuppers shall be grey cast iron, conforming to ASTM A 48 Class 30 B.
- Gratings shall be structural steel conforming to ASTM A 709 Grade 36 and epoxy coated.
- Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B8, Type 304.
- Paint: Scuppers shall be painted with one shop coat inside and outside. Shop paint shall conform to 912.02.01. Insides of scuppers to be painted with one coat of coal tar epoxy SSPC-Paint 16. Vertical showing surface in curb face and horizontal showing surface in roadway to be painted with the second and finish coats specified in 912.16, System E. Outside of scuppers exposed to atmosphere below the concrete deck slab, shall receive the field paint required for structural steel. If there is no paint indicated, the scupper shall be painted to match color of existing beam.
- Shipping: Grate and Scupper shall be shipped as unit with grate hold down bolts in place (not welded).
- Measurement and Payment: The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge will be measured and paid for at the Contract unit price per each for the Scupper item regardless of length of downspouts, etc. If no specific items appear in the Invitation for Bids, the cost shall be included in the pertinent Superstructure Concrete item.

<table border="1" style="width: 100%; border-collapse: collapse;"><tr><th style="text-align: center;">APPROVAL</th></tr><tr><td><i>E.S. Friedman</i> DIRECTOR OFFICE OF BRIDGE DEVEL. DATE: 7/1/83</td></tr><tr><th style="text-align: center;">REVISIONS</th></tr><tr><td><table border="1" style="width: 100%; border-collapse: collapse;"><tr><th style="width: 50%;">SHA</th><th style="width: 50%;">FHWA</th></tr><tr><td>12-27-93</td><td style="text-align: center;">.</td></tr><tr><td>1-22-01</td><td style="text-align: center;">.</td></tr></table></td></tr><tr><td>FHWA APPROVAL</td></tr><tr><td>DATE: 10-6-83</td></tr></table>	APPROVAL	<i>E.S. Friedman</i> DIRECTOR OFFICE OF BRIDGE DEVEL. DATE: 7/1/83	REVISIONS	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><th style="width: 50%;">SHA</th><th style="width: 50%;">FHWA</th></tr><tr><td>12-27-93</td><td style="text-align: center;">.</td></tr><tr><td>1-22-01</td><td style="text-align: center;">.</td></tr></table>	SHA	FHWA	12-27-93	.	1-22-01	.	FHWA APPROVAL	DATE: 10-6-83	<p>STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT</p> <p>TYPE IV BRIDGE SCUPPER</p> <p>STANDARD NO. BR-SS(0.10)-83-148</p>
APPROVAL													
<i>E.S. Friedman</i> DIRECTOR OFFICE OF BRIDGE DEVEL. DATE: 7/1/83													
REVISIONS													
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><th style="width: 50%;">SHA</th><th style="width: 50%;">FHWA</th></tr><tr><td>12-27-93</td><td style="text-align: center;">.</td></tr><tr><td>1-22-01</td><td style="text-align: center;">.</td></tr></table>	SHA	FHWA	12-27-93	.	1-22-01	.							
SHA	FHWA												
12-27-93	.												
1-22-01	.												
FHWA APPROVAL													
DATE: 10-6-83													
SHEET <u>1</u> OF <u>4</u>													



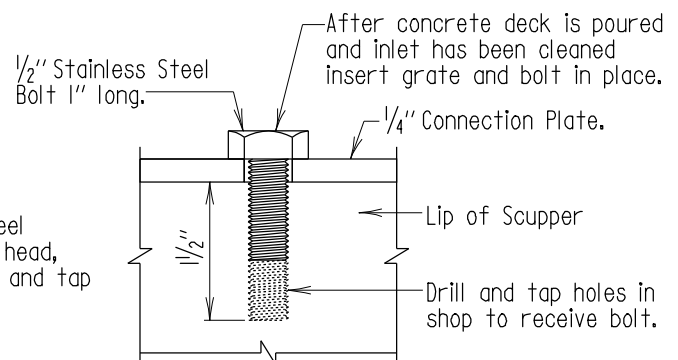
PLAN - SCUPPER GRATING

Scale: 1 $\frac{1}{2}$ " = 1'-0"



SECTION B-B

Scale: $\frac{3}{4}$ " = 1'-0"



DETAIL "A"

Scale: None

APPROVAL

L.S. Friedman DIRECTOR
OFFICE OF BRIDGE DEVELOPMENT

DATE: 7/1/83

REVISIONS

SHA	FHWA
1-7-93	.
.	.
.	.

FHWA APPROVAL

DATE: 10-6-83

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE IV BRIDGE SCUPPER

STANDARD NO. BR-SS(0.10)-83-148

SHEET 4 OF 4

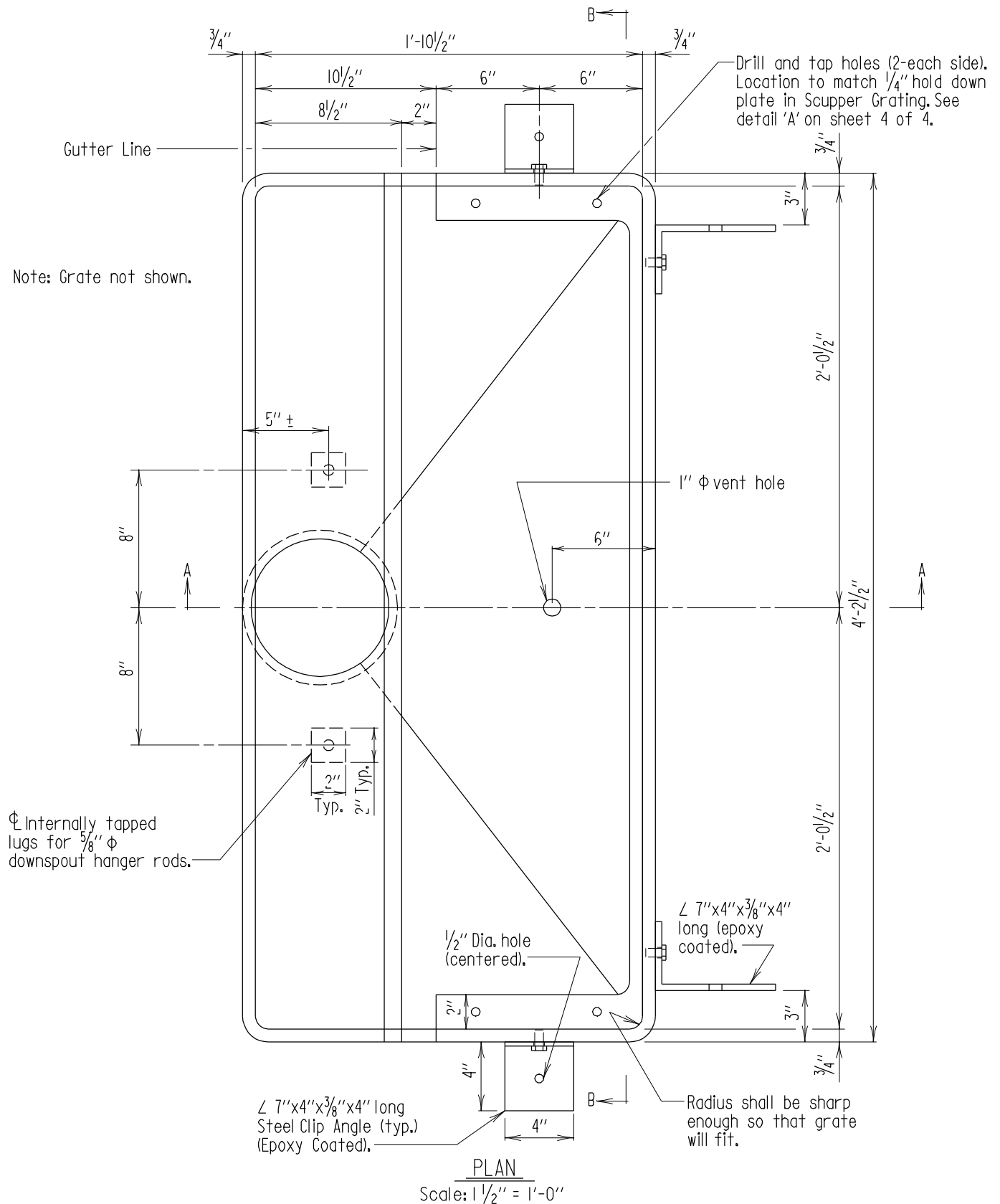
SUPER-OTHER

GENERAL NOTES

- Specifications: Latest S.H.A. Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials: Scuppers shall be grey cast iron, conforming to ASTM A 48 Class 30 B.
- Gratings shall be structural steel conforming to ASTM A 709 Grade 36 and epoxy coated.
- Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B8, Type 304.
- Paint: Scuppers shall be painted with one shop coat inside and outside. Shop paint shall conform to 912.02.01. Insides of scuppers to be painted with one coat of coal tar epoxy SSPC-Paint 16. Vertical showing surface in curb face and horizontal showing surface in roadway to be painted with the second and finish coats specified in 912.16, System E. Outside of scuppers exposed to atmosphere below the concrete deck slab, shall receive the field paint required for structural steel. If there is no paint indicated, the scupper shall be painted to match color of existing beam.
- Shipping: Grate and Scupper shall be shipped as unit with grate hold down bolts in place (not welded).
- Measurement of Payment: The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge will be measured and paid for at the Contract unit price per each for the Scupper item regardless of length of downspouts, etc. If no specific items appear in the Invitation for Bids, the cost shall be included in the pertinent Superstructure Concrete item.

APPROVAL		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
<i>L.S. Friedman</i> DIRECTOR OFFICE OF BRIDGE DEVEL.			
DATE: 7/26/83			
REVISIONS			
SHA	FHWA		
12-27-93	.	TYPE V BRIDGE SCUPPER	
1-22-01	.		
.	.		
FHWA APPROVAL	.	STANDARD NO. BR-SS(0.12)-83-151	SHEET 1 OF 4
DATE: 11-29-85	.		

Note: Grate not shown.



Note:

1. Wood forms may be used in the area of the scupper, as approved by the Engineer.
2. There must be a minimum of 5" of concrete under entire scupper area, with a mat of rebars equivalent in size and spacing to normal bottom mat pattern of deck. This may require the lowering of the deck in this area.

FHWA APPROVAL
DATE: 11-29-85

APPROVAL	
<i>L.S. Friedman</i> DIRECTOR	OFFICE OF BRIDGE DEVEL.
DATE: 7/6/83	
REVISIONS	
SHA	FHWA
1-7-93	
5-20-94	
1-22-01	

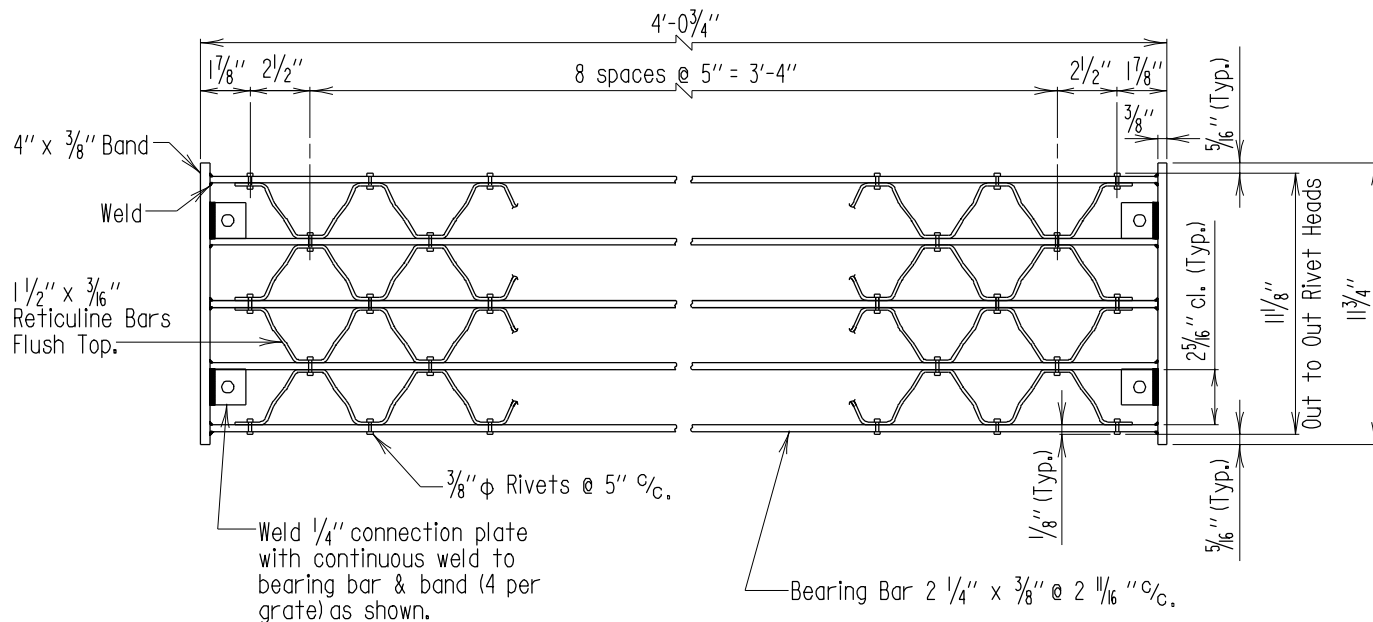
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE V BRIDGE SCUPPER

STANDARD NO. BR-SS(0.12)-83-151

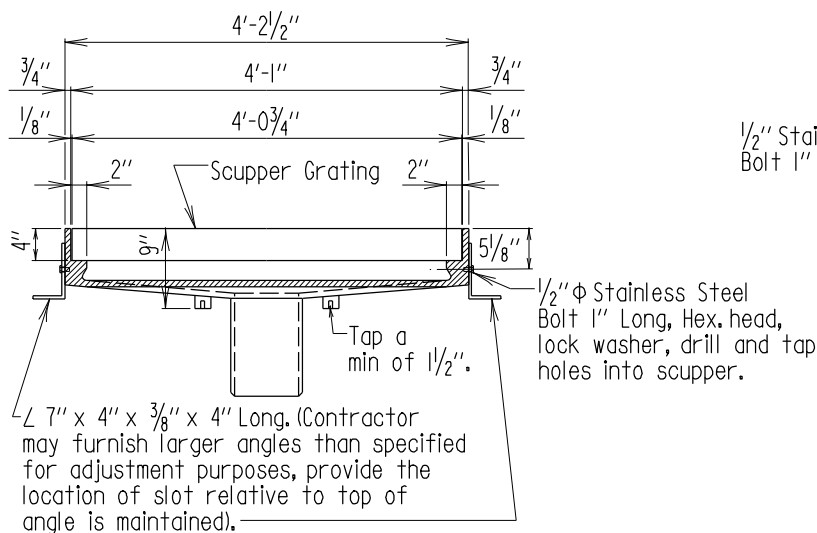
SHEET 2 OF 4

SUPER-OTHER



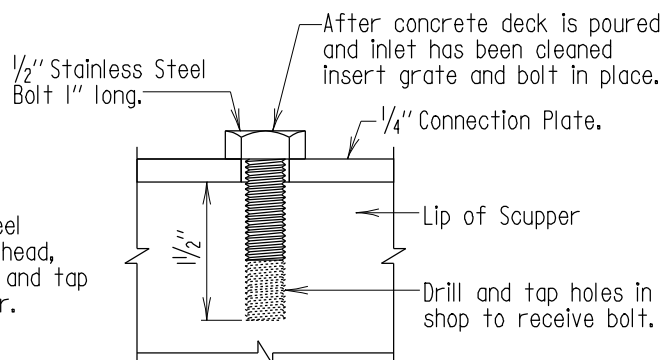
PLAN - SCUPPER GRATING

Scale: 1 ¹/₂'' = 1'-0''



SECTION B-B

Scale: 3 ³/₄'' = 1'-0''



DETAIL "A"

Scale: None

APPROVAL

L.S. Friedman DIRECTOR
OFFICE OF BRIDGE DEVEL.

DATE: 7/6/83

REVISIONS

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1-7-93	.
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FHWA APPROVAL

DATE: 11-29-85

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

TYPE V BRIDGE SCUPPER

STANDARD NO. BR-SS(0.12)-83-151

SHEET 4 OF 4

SUPER-OTHER